

REMARKS

Claims 1, 6-9 and 11-17 are all the claims pending in the application. Claims 9 and 11-17 are allowed. Support for the amendment to claim 1 may be found in the specification as originally filed, for example, in original claims 2, 4 and 5.

I. The Rejection Under 35 U.S.C. §102(b)

Claims 1 and 8 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Wakata et al.

Claim 1 includes the subject matter of claims 2, 4 and 5. The subject matter of claims 2, 4 and 5 each was not rejected based on Wakata et al. Therefore, the rejection based on Wakata et al is moot and it is requested that the rejection under 35 U.S.C. §102(b) be reconsidered and withdrawn.

II. The Rejection Under 35 U.S.C. §103(a)

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakata et al in view of Banks et al.

The Examiner states that Wakata et al lacks the claimed acid generating ingredients as recited in the dependent claims.

The Examiner relies on Banks et al for the disclosure of suitable photoinitiating compounds and acid generating compounds for liquid light sensitive compositions that are used in printed circuit formation, including free radical generators, onium salts, peroxides, etc. It is the Examiner's position that it would

have been *prima facie* obvious to one of ordinary skill in the art of liquid light sensitive compositions to use any of the listed compounds in Banks et al as a photoinitiator in the art of Wakata et al and reasonably expect the same or similar results of high sensitivity, a film excellent in electrical properties and mechanical/electrical resistance.

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Wakata et al in view of Banks et al and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

In claim 1, Component (A), the compound generating an acid and/or a radical species by the irradiation of electron beams or X-rays, is a compound selected from the sulfonate compounds of sulfonium or iodonium, sulfonic acid ester compounds of N-hydroxyimide or disulfonyldiazomethane compounds. Applicants respectfully submit that the recitation of the compounds of Component (A) clearly distinguishes the presently claimed negative-working resist composition for electron beams or X-rays comprising (A) a compound generating an acid and/or radical species by the irradiation of electron beams or X-rays from the photopolymerization initiators of Wakata et al and Banks et al. Additionally, Applicants respectfully submit that neither Wakata et al nor Banks et al discloses the compounds capable of producing acids and/or radical species of the present invention.

The present composition is a negative resist composition having high sensitivity to electron beams or X-rays. The photo-initiators such as benzoin disclosed in the Wakata et al and the metallocene compounds disclosed in Banks et al have a sensitivity to light of the visible to ultraviolet range. As a matter of course, both Wakata et al and Banks et al do not describe that the photo-initiators used therein have an electron-beam sensitivity and X-ray sensitivity. In fact, Applicants submit that such photo-initiators are insensitive to electron beams and X-rays.

Moreover, the present invention uses an organic basic compound as a compound having a function of controlling the resolution. Neither Wakata et al nor Banks et al discloses the use of the organic basic compound in combination with the claimed components and neither has any teaching or suggestion concerning the effect of organic basic compounds upon resolution. Therefore, it is apparent that the present invention is not obvious from Wakata et al and Banks et al, which do not teach or disclose a negative resist composition having high sensitivity to electron beams or X-rays as claimed, which comprises Component (A).

For the above reasons, it is respectfully submitted that the subject matter of claims 1, 3 and 6-8 is neither taught by nor made obvious from the disclosures of Wakata et al in view of Banks et al and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 09/759,362

III. Conclusion

In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §102 and §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

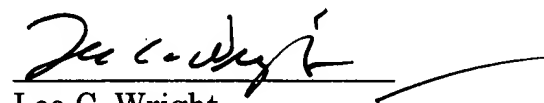
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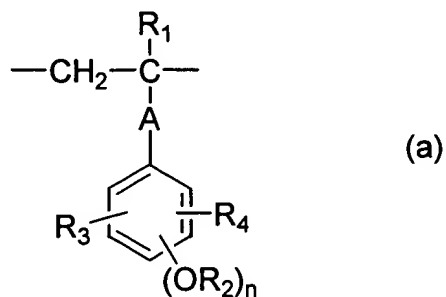
APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 2, 4 and 5 are canceled.

The claims are amended as follows:

1 (amended). A negative-working resist composition for electron beams or X-rays comprising (A) a compound generating an acid and/or radical species by the irradiation of electron beams or X-rays selected from the group consisting of a sulfonate compound of sulfonium, a sulfonate compound of iodonium, a sulfonic acid ester compound of N-hydroxyimide and a disulfonyldiazomethane compound, (B) a resin which is insoluble in water and soluble in an alkali aqueous solution and having a repeating unit shown by the following formula (a), (C) a crosslinking agent causing crosslinking with the resin of component (B) by the action of an acid, [and] (D) a compound having at least one unsaturated bond capable of being polymerized by an acid and/or a radical and (E) an organic basic compound,



wherein R_1 represents a hydrogen atom, a halogen atom, a cyano group, or an alkyl or haloalkyl group which may have a substituent; R_2 represents a hydrogen atom, or an alkyl, cycloalkyl, aryl, aralkyl, or acyl group which may have a substituent; R_3 and R_4 , which may be the same or different, each represents a hydrogen atom, a halogen atom, a cyano group, or an alkyl, cycloalkyl, alkenyl, aralkyl, or aryl group which may have a substituent; A represents a single bond, or a divalent alkylene, alkenylene, cycloalkylene, or arylene group which may have a substituent, or -O-, -SO₂-, -O-CO- R_5 -, -CO-O- R_6 -, or -CO-N(R_7)- R_8 -; R_5 , R_6 , and R_8 , which may be the same or different, each represents a single bond, or an alkylene, alkenylene, cycloalkylene, or arylene group, which may have a substituent, singly or a divalent group formed by combining the above-described group and at least one kind selected from an ether structure, an ester structure, an amide structure, a urethane structure, and a ureido structure; R_7 represents a hydrogen atom, or an alkyl, cycloalkyl, aralkyl, or aryl group which may have a substituent; and n represents an integer of from 1 to 3; provided that plural R_2 s, or R_2 and R_3 or R_4 may combine with each other to form a ring.